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URBAN DISTRICT COUNCIL

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ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR
1966

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By
DAVID P. ADAMS, M.B., Ch.B., D.P.H.
Medical Officer of Health.

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URBAN DISTRICT COUNCIL

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Medical Officer of Health.

STAVELEY URBAN DISTRICT COUNCIL.

Chairman of the Council—Councillor F. Blunt, J.P.

PUBLIC HEALTH COMMITTEE.

Composed of the whole of the Members of the Council

Chairman—Councillor F. A. Madin

Members as at 31st December, 1966—

Councillor Mrs. D. I. Banks
Councillor F. Blunt, J.P.
Councillor H. Commons
Councillor W. E. Edwards (Elected October, 1966)
Councillor E. Fairs (Elected July, 1966)
Councillor I. Herdman
Councillor I. Hodgson
Councillor J. R. Huckle
Councillor Mrs. S. A. Jervis
Councillor S. Meakin
Councillor Mrs. J. Platts
Councillor V. H. Schofield
Councillor W. Smith
Councillor G. W. Stevenson (Elected May, 1966)
Councillor A. W. Talbot (Elected February, 1966)
Councillor J. Wickins, J.P.

PUBLIC HEALTH STAFF :

Medical Officer of Health :
DAVID P. ADAMS, M.B., Ch.B., D.P.H.
Rural Council House, Saltergate, Chesterfield. Telephone—Chesterfield 3171

Chief Public Health Inspector and Cleansing Superintendent
A. MURRAY, C.S.I.B., M.A.P.H.I.
Council Offices, Lowgates, Staveley, Chesterfield
Telephone—Staveley 524, 596 and 654

Additional Public Health Inspector :
M. J. O'BRIEN, Cert. P.H.I.E.B. (Commenced 15th August, 1966)

Clerk :
Mrs. I. HAWGOOD

Mr. Chairman, Ladies and Gentlemen,

I herewith present the Annual Report on the health of the Urban District for the year 1966.

The birth rate at 16.15 per 1,000 population showed a slight reduction from the rate of 16.48 for 1965. In absolute terms this is a reduction of five births only as against a reduction of 45 for 1965. Once again the reduction occurred among the legitimate births only.

The crude death rate at 12.22 per 1,000 population was the highest recorded rate. The increase in absolute terms was from 170 deaths in 1965 to 227 deaths in 1966. This occurred mainly in those over 65 years of age. There were seven deaths from cancer of the lung as against five in 1965. This increase is in line with the national experience in that in 1966 there were over 27,000 deaths from cancer of the lung in England and Wales, compared with 18,000 in 1965. The incidence of this disease should be constantly borne in mind by cigarette smokers.

Cervical smear tests for the detection of early cervical cancer in women can be performed at the County Council Clinic in Lime Avenue, Staveley, on Thursday mornings. The service can also be obtained from general practitioners. This is an important advance in preventative medicine, and the public is urged to take advantage of the facilities.

The year saw a sudden outbreak of diphtheria in the district, the first for 18 years. There were three clinical cases (two deaths) and five carriers (three children and two adults). The matter is referred to in more detail in the Infectious Diseases Section of the report and a reprint of an article published in the Medical Press is enclosed.

A total of 49 persons have been treated for scabies at Poolsbrook Cleansing Centre. This is a reduction on last year's total of 105 persons. I would like to remind family doctors that this service is available should they wish to use it.

During the year the Council took the decision to implement the Clean Air Act. A programme for the district was drawn up and work commenced on the first Smoke Control Area of 817 houses at Hollingwood. This was a most commendable decision and will result in far reaching benefits for the people of Staveley.

A post of Additional Public Health Inspector was added to the establishment during the year and Mr. M. J. O'Brien was appointed.

October 1965 saw the retirement of Mr. H. H. Stanley who had served as Clerk to the Urban District since its formation in 1935. He takes the good wishes of his colleagues with him into retirement.

I would like to express my thanks to the Council and to my colleagues for their help and support during the year. In this connection I would like to make special mention of Mr. E. S. Walker, who succeeded Mr. Stanley as Clerk of the Council. He brings a new outlook to the pressing problems of environmental improvement and urban renewal which face the Urban District.

I am, Mr. Chairman, Ladies and Gentlemen,
Your obedient Servant,
DAVID P. ADAMS,
Medical Officer of Health

STATISTICS OF THE AREA

Area in Acres	6,504
Population (Estimated mid-year)	18,570
Number of Inhabited Houses and Caravans	6,022
Rateable Value at 31st March, 1966	£737,674
Product of 1d. Rate	£2,464

LIVE BIRTHS:	Male	Female	Total
Legitimate	145	130	275
Illegitimate	11	14	25
Total	156	144	300

Rate per 1,000 population	16.15
Illegitimate Live Births percent of total live births	8.33%
Standardised Birth Rate (Comparability Factor 1.01)	16.31

STILL BIRTHS:	Male	Female	Total
Legitimate	1	2	3
Illegitimate	1	—	1
Total	2	2	4

Rate per 1,000 total Live and Still Births 13.16

TOTAL LIVE AND STILL BIRTHS:	Male	Female	Total
Live Births	156	144	300
Still Births	2	2	4
Total	158	146	304

INFANT DEATHS UNDER ONE YEAR:	Male	Female	Total
Legitimate	5	3	8
Illegitimate	1	—	1
Total	6	3	9

INFANT MORTALITY RATES:

Legitimate Infant Deaths per 1,000 legitimate live births	29.09
Illegitimate Infant Deaths per 1,000 illegitimate live births	40.00
Total Infant Deaths per 1,000 total live births	30.00

NEO-NATAL MORTALITY RATE: (under 4 weeks of age)	Male	Female	Total
Legitimate	2	3	5
Illegitimate	1	—	1
Total	3	3	6

Total Deaths under 4 weeks per 1,000 total live births 20.00

EARLY NEO-NATAL MORTALITY RATE: (under 1 week of age)	Male	Female	Total
Legitimate	2	2	4
Illegitimate	1	—	1
Total	3	2	5

Total Deaths under 1 week per 1,000 total live births	16.67

PERINATAL MORTALITY RATE

Still births, and deaths under 1 week combined, per 1,000 total live and still births	29.60

MATERNAL MORTALITY (including abortion)

Number of Deaths	Nil
Rate per 1,000 live and still births	—

DEATHS	Male	Female	Total
Deaths Registered	120	107	227
Crude Death Rate per 1,000 population			12.22
Standardised Death Rate (Comparability Factor, 1.21)			14.79

CAUSES OF DEATH
IN THE STAVELEY URBAN DISTRICT.

Cause of Death	Male	Female
Tuberculosis, respiratory	1	—
Tuberculosis, other	—	—
Syphilitic Disease	—	—
Diphtheria	2	—
Whooping Cough	—	—
Meningococcal Infection	—	—
Acute Poliomyelitis	—	—
Measles	—	—
Other infective and parasitic diseases	—	1
Malignant neoplasm, stomach	2	1
Malignant neoplasm, lung, bronchus	7	—
Malignant neoplasm, breast	—	2
Malignant neoplasm, uterus	—	3
Other malignant and lymphatic neoplasms	10	5
Leukaemia, aleukaemia	1	1
Diabetes	2	—
Vascular lesions of nervous system	19	24
Coronary disease, angina	24	17
Hypertension with heart disease	1	2
Other heart diseases	10	12
Other circulatory disease	2	3
Influenza	—	—
Pneumonia	6	11
Bronchitis	10	5
Other diseases of the respiratory system	4	1
Ulcer of stomach and duodenum	1	1
Gastritis, enteritis and diarrhoea	2	—
Nephritis and nephrosis	—	—
Hyperplasia of prostate	—	—
Pregnancy, childbirth, abortion	—	—
Congenital malformations	—	—
Other defined and ill defined diseases	10	11
Motor vehicle accidents	4	2
All other accidents	1	4
Suicide	1	1
Homicide and Operations of War	—	—
	120	107

DEATHS IN AGE GROUPS

Age Group	Males	Females	Total
Under 4 weeks	3	3	6
4 weeks and under 1 year	3	–	3
1—4 years	1	–	1
5—14 years	3	2	5
15—24 years	3	2	5
25—34 years	–	–	–
35—44 years	1	4	5
45—54 years	10	4	14
55—64 years	22	13	35
65—74 years	35	27	62
75—84 years	30	35	65
85—94 years	9	17	26
	120	107	227

COMPARATIVE TABLES

Year	Population	Birth Rate per 1000 population	Death Rate per 1000 population	Infant Mortality Rate per 1000 live births
1935	17,500	10.20	6.28	27.77
1936	17,110	13.56	10.05	81.89
1937	16,970	15.67	10.54	48.87
1938	16,960	15.44	11.49	57.25
1939	16,890	15.45	9.23	58.18
1940	16,350	16.75	11.13	76.65
1941	16,350	17.48	8.58	44.21
1942	16,190	21.62	9.62	29.98
1943	16,140	18.58	11.09	67.96
1944	16,470	22.52	8.92	40.42
1945	16,700	19.34	8.68	58.82
1946	17,260	18.71	9.73	49.53
1947	17,480	20.93	8.98	19.12
1948	17,580	18.09	10.35	56.60
1949	17,670	17.26	9.05	22.95
1950	17,960	15.25	9.74	18.24
1951	17,890	15.93	10.62	38.59
1952	18,010	14.21	8.66	46.87
1953	17,940	14.43	7.47	19.30
1954	17,950	13.98	10.14	31.90
1955	17,490	14.40	9.26	47.60
1956	17,510	14.79	9.76	23.16
1957	17,530	17.45	10.95	32.68
1958	17,510	17.93	11.42	28.66
1959	17,420	16.53	9.30	24.30
1960	17,480	17.16	9.32	20.00
1961	18,080	17.53	10.29	22.08
1962	18,200	17.47	10.82	28.30
1963	18,280	19.58	10.45	11.17
1964	18,450	18.97	9.81	28.57
1965	18,510	16.48	9.18	29.51
1966	18,570	16.15	12.22	30.00

SOCIAL CONDITIONS

The chief industries in the area are coal mining, iron and chemical manufacturing. A substantial proportion of the male population is employed in these heavy industries. A limited amount of employment is available for females in industries manufacturing clothing and motor vehicle accessories. Some additional light industry would present a better balanced situation.

GENERAL PROVISION OF HEALTH SERVICES

Midwives and Nursing in the Home

These are under the supervision of the Derbyshire County Council.

Laboratory Facilities

Bacteriological work is carried out by the Public Health Laboratory Service at Sheffield. Chemical analyses are carried out by the Public Analyst at Sheffield.

Hospitals

The majority of patients from the urban area are catered for by the Chesterfield Royal Hospital and Scarsdale Hospital. Morton Hospital and Lodge Moor Hospital deal with infectious diseases, and maternity cases are received at Ashgate Annexe or at the Maternity Wards of Scarsdale Hospital.

Treatment Centre, Poolsbrook

The Treatment Centre at Poolsbrook is operated by seven adjoining Local Authorities for the treatment of Scabies and Head Lice. During the year 49 cases were treated at the Centre, 12 of which were from this Urban District.

OLD PEOPLE'S WELFARE

The activities of the local voluntary Committees still continue and successfully brighten the lives of the old people living in their neighbourhoods. The provision of rest rooms by the Council is highly commendable and reflects a sympathetic understanding of the needs of older people.

NATIONAL ASSISTANCE ACTS, 1948 & 1951 (Sect. 47)

Several persons were kept under observation during the year and attempts made to assist with their problems. Statutory action was not required.

MEDICAL RESEARCH COUNCIL PNEUMOCONIOSIS SURVEY

A medical team from the Medical Research Council spent some time in the town on a survey to follow up their findings during a similar investigation ten years ago.

INFECTIOUS DISEASES

The year was a good one in that the incidence of all infectious diseases was low with the striking exception of an outbreak of diphtheria, the first in the district for 18 years. There were three clinical cases (all boys), two of whom died, the third recovering after suffering from extensive neurological complications. Investigations revealed five carriers, two adults — dead boys' mother and a policeman — and three school mates. One of these school mates had recently entered the school after returning from Cyprus. It is not possible to say definitely that she introduced the infection but it does bring out one of the often unsuspected hazards of foreign travel. It also indicates the need to take advantage of the protection offered by immunisation. Neither of the two fatal cases had been immunised. Parents should consider carefully before rejecting the protection afforded by immunisation.

Immunisation against Diphtheria

The Derbyshire County Council has carried out immunisation against Diphtheria on the following number of children during the year.

Primary immunisations	323
Booster injections	364

NOTIFIABLE DISEASES

Disease	Total No. Notified	Cases admitted to Hospital
Acute Poliomyelitis	—	—
Acute Primary Pneumonia	—	—
Acute Influenzal Pneumonia	—	—
Anthrax	—	—
Cholera	—	—
Cerebospinal Meningitis	—	—
Diphtheria	6	6
Dysentery	—	—
Encephalitis Lethargica	—	—
Erysipelas	—	—
Food Poisoning	—	—
Malaria	—	—
Measles	108	—
Membranous Croup	—	—
Ophthalmia Neonatorum	—	—
Paratyphoid Fevers	—	—
Plague	—	—
Puerperal Pyrexia	—	—
Relapsing Fever	—	—
Scarlet Fever	2	—
Smallpox	—	—
Tuberculosis	2	—
Typhus Fever	—	—
Typhoid Fever	—	—
Whooping Cough	—	—

OPHTHALMIA NEONATORUM

Cases Treated:			Vision Unimpaired	Vision Impaired	Total Blindness	Deaths
Notified	At Home	In Hospital				
—	—	—	—	—	—	—

CASES OF TUBERCULOSIS NOTIFIED 1957-66

Year	Pulmonary			Non-Pulmonary			Total Cases
	M	F	Total	M	F	Total	
1957	8	4	12	—	—	—	12
1958	5	2	7	1	—	1	8
1959	7	—	7	—	2	2	9
1960	7	2	9	1	—	1	10
1961	2	2	4	—	1	1	5
1962	3	—	3	2	—	2	5
1963	2	2	4	—	—	—	4
1964	3	1	4	—	1	1	5
1965	1	1	2	—	2	2	4
1966	1	1	2	—	—	—	2

NOTIFIABLE DISEASES ACCORDING TO AGE GROUP

Disease	Under 1 Year	1 Year	2 Years	3 Years	4 Years	5—9	10—14	15—19	20—34	35—44	45—54	55—64	65 & over	TOTAL
Acute Poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Acute Primary Pneumonia	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Acute Influenzal Pneumonia	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Anthrax	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebospinal Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria	—	—	—	—	—	4	1	—	—	1	—	—	—	6
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Food Poisoning	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	8	14	21	17	16	31	1	—	—	—	—	—	—	108
Membranous Croup	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ophthalmia Neonatorum	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paratyphoid Fevers	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Pyrexia	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	—	—	1	1	—	—	—	—	—	—	—	2
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping Cough	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuberculosis :														
Pulmonary :	—	—	—	—	—	—	—	1	—	—	—	—	1	2
Non-Pulmonary	—	—	—	—	—	—	—	—	—	—	—	—	—	—

SEASONAL INCIDENCE OF NOTIFIABLE DISEASES

DISEASE	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL
Acute Poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—	—
Acute Primary Pneumonia	—	—	—	—	—	—	—	—	—	—	—	—	—
Acute Influenzal Pneumonia	—	—	—	—	—	—	—	—	—	—	—	—	—
Anthrax	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebospinal Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria	—	—	—	—	—	—	6	—	—	—	—	—	6
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	—	—	—	—	—	—	—	—
Food Poisoning	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	26	16	4	2	5	7	37	3	2	1	1	4	108
Membranous Croup	—	—	—	—	—	—	—	—	—	—	—	—	—
Ophthalmia Neonatorum	—	—	—	—	—	—	—	—	—	—	—	—	—
Paratyphoid Fevers	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Pyrexia	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	—	—	—	—	2	—	—	—	—	—	2
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid Fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping Cough	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuberculosis :													
Pulmonary	—	1	—	1	—	—	—	—	—	—	—	—	2
Non-Pulmonary	—	—	—	—	—	—	—	—	—	—	—	—	—

ANNUAL REPORT
OF THE
CHIEF PUBLIC HEALTH INSPECTOR & CLEANSING SUPERINTENDENT
for the year ended 31st December, 1966

To the Chairman and Members of the Public Health Committee
Mr. Chairman, Ladies and Gentlemen,

I have pleasure in submitting my Annual Report in respect of the work carried out during 1966 as follows:—

HOUSING

Inspection of Dwelling Houses

1.	(a)	Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts)	134
	(b)	Number of inspections made for the purpose ...	193
2.	(a)	Number of dwelling houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidation Regulations 1925 and 1932	Nil
	(b)	Number of inspections made for the purpose ...	Nil
3.		Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	31
4.		Number of dwelling houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respect reasonably fit for human habitation	48

Remedy of Defects without Service of Formal Notice.

Number of defective dwelling houses rendered fit in consequence of informal action by Local Authority or their officers	28

Action Under Statutory Powers..

1.		Proceedings under Sections 9 and 10 of the Housing Act 1957:—	
	(a)	Number of dwelling houses in respect of which notices were served requiring repairs	Nil
	(b)	Number of dwelling houses which were rendered fit after service of formal notice:—	
		(i) By owners...	Nil
		(ii) By Local Authority in default of owners ...	Nil
2.		Proceedings under Public Health Acts:—	
	(a)	Number of dwelling houses in respect of which notices were served requiring defects to be remedied	Nil
	(b)	Number of dwelling houses in which defects were remedied after service of formal notice:—	
		(i) By owners...	Nil
		(ii) By Local Authority in default of owners ...	Nil

3. Proceedings under Sections 16, 17 and 35 of the Housing Act 1957:—

(a) Number of dwelling houses in respect of which Demolition Orders or Closing Orders were made	1
(b) Number of dwelling houses demolished in pursuance of Demolition Orders	23
(c) Number of dwelling houses demolished by informal action	Nil
(d) Number of families displaced	11
(e) Number of persons displaced	25
(f) Number of dwelling houses in respect of which undertakings were given not to use for human habitation	Nil
(g) Number of dwelling houses made fit after undertakings	Nil

4. Proceedings under Section 18 of the Housing Act 1957:—

(a) Number of separate tenements or underground rooms in respect of which Closing Orders were made	Nil
(b) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenements or room having been rendered fit	Nil

5. Proceedings under Part III of the Housing Act 1957:—

(a) Number of Clearance Areas declared	1
(b) Total number of houses in such areas	10
(c) Number of Clearance Orders confirmed	2
(d) Number of houses demolished	7
(e) Number of families displaced	21
(f) Number of persons displaced	56

The Clearance Area declared relates to ten houses at Millhouses, Staveley. These houses were purchased by Agreement by the Council. The two Orders confirmed relate to Orders made in 1965 in respect of thirteen houses at Worksop Road, and Renishaw Road, Mastin Moor, and nine houses at Duke Street, Staveley. Only one house remained occupied at the end of the year.

Housing Act, 1957, Part IV—Overcrowding.

During the year no cases of statutory overcrowding were discovered.

Rent Act, 1957

No action has been found necessary during the year under the provisions of this Act.

Improvement Grants

Applications for Standard Grants totalled 18 for the provision of the following amenities:—

Bath	16
Washhand basin	16
Hot water supply	17
Internal water closet	18
Food storage facilities	14

All the applications were approved which included 16 from owner/occupiers and 2 from owners of tenanted property.

One application was received for a Discretionary Grant which was approved at £226 7s. 9d.

Caravan Sites

One privately owned caravan site at Riverdale Park, Bent Lane, Staveley, containing 76 caravans continued to operate satisfactorily. The majority have their own drainage, water supply and electricity fitted into their caravans. Central toilet blocks, firefighting appliances, standpipes, telephone, street lighting, and recreational facilities are also provided.

Three other licences are operative in respect of single caravans for residential purposes.

Infectious Diseases

Particulars will be found in the Medical Officer's Report of the number of cases of infectious diseases which were notified during the year.

The outbreak of diphtheria at Hollingwood during July was of particular significance in that these were the first cases reported in the last 18 years. The sudden and unexpected outbreak revealed three cases (two deaths) and five carriers. Extensive measures were undertaken to control the outbreak.

Filthy and Verminous Premises

The number of premises infested by vermin is very small, but the occasional occurrence of vermin emphasises the need for continued vigilance.

Meat Inspection

There are no licenced slaughterhouses within the Urban District. Meat traders operating in the area obtain their supplies from the Chesterfield and Sheffield districts.

Inspection of Other Foods

Food surrendered as being unfit for human consumption was as follows:—

84 lbs. Cod
5¼ lbs. Lard
13½ lbs. Margarine
9 lbs. 9 ozs. Ham
41 packets Fish Fingers
12 packets Sliced Beef

4 packets Haddock
2 packets Cod
6 packets Plaice
5 packets Faggots
4 packets Chips
27 packets Peas

Food Hygiene (General) Regulations, 1960

Trade	Total	Number complying with Reg 16	Number to which Reg. 19 applies	Number complying with Reg. 19
Bakeries	1	1	1	1
Butchers	10	9	10	9
Works canteens	3	3	3	3
Catering	1	1	1	1
Fish and chips	6	6	6	6
Grocer and General	48	41	48	44
Grocer and off-licence	7	7	7	7
Licensed premises	18	18	18	18
Mineral water manufacturers	2	2	2	2
School canteens	2	2	2	2
Cooked meats	1	1	1	1
Fishmongers	1	1	1	1
Greengrocery	4	4	4	4
Chemists	3	3	3	3
Confectionery	1	1	1	1
	108	100	108	103

Ice Cream Premises

The total number of registrations operative under Section 16, Food and Drugs Act 1955, is as follows:—

Manufacture and Sale	Nil
Sale only	39

Two applications for registration were received during the year for the sale of ice cream which were granted.

Food and Drugs Act, 1955

The County Analyst submits information that the Derbyshire County Council as Food and Drugs Authority, obtained 55 samples of food from the Urban District during the year, and these were examined for quality. All samples of milk were satisfactory but a sample of Halibut Liver Oil Capsules were deficient in Vitamin A and the manufacturers were cautioned.

Common Lodging Houses

There are no common lodging houses in the District.

Animal Boarding Establishments

One licence to keep a boarding establishment for animals was granted during the year.

Places of Entertainment

The Regal Cinema closed in June of this year and inspections of the sanitary accommodation have been discontinued until such time as the premises are re-opened.

Shops Act, 1950

Visits have been paid to various shops regarding health provisions, keeping of required records and notices, and the closing of shops at regulation hours.

Offices, Shops & Railway Premises Act, 1963

TABLE A	Class of Premises	No. of premises registered during the year	Total no. of registered premises at end of year	No. of registered premises receiving a general inspection during the year
Registrations and General Inspections	Offices	2	18	4
	Retail shops	4	61	10
	Wholesale shops, warehouses	—	1	—
	Catering establishments open to the public, canteens ...	—	8	—
	Fuel storage depots	—	1	—
	TOTAL	6	89	14

TABLE B	
Number of visits of all kinds by Inspectors to Registered Premises	26

TABLE C	Class of Workplace	No. of persons employed
Analysis of Persons Employed in Registered Premises by Workplace	Offices	138
	Retail shops	203
	Wholesale departments, warehouses	4
	Catering establishments open to the public	26
	Canteens	1
	Fuel storage depots	2
	TOTALS	374
	Total Males	155
	Total Females	219

It is proposed to complete the inspection of registered premises during the coming year.

Rodent Infestation

Rodent Control work continues with the services of a part time operator. The work carried out during the year is indicated by the following table:—

	Type of Property	
	Non Agricultural	Agricultural
Number of properties in the district	7094	48
Total number of properties inspected following notification	193	—
Number of such properties infested by :—		
(a) Rats	176	—
(b) Mice	17	—
Total number of properties inspected for rats or mice for reasons other than notification	50	5
Number of such properties infested by :—		
(a) Rats	—	—
(b) Mice ..	4	—

Water Supply

Every house in the District is provided with a piped water supply in the house. There are no standpipes and no wells.

The Engineer and Manager of the Water Board submits the following information:—

The supplying authority to the area is the North Derbyshire Water Board.

(a) (i) Treatment Plants at Ogston and Barlow provide the source of water to the area; both supplies are chlorinated. Distribution is from covered service reservoirs. The resultant quality of supplied waters is satisfactory.

(ii) The quantity proved adequate for normal household purposes, although restrictions were imposed on the use of hosepipes.

(b) Chemical and bacteriological analyses are carried out in the Board's laboratories. All raw treated and distributed samples are examined at least monthly. The total number of samples involved in 1966 were:—

Bacteriological	224
Chemical	180

Bacteriological results on treated waters have been consistent with standards laid down by the Ministry of Health.

Water Supply (continued)

Chemical results vary, as a result of two sources being involved with location. Approximate extremes are:—

pH	7.0	10.0
Alkalinity (CaCo3)	20	40 mg/1
Hardness (CaCo3)	50	120 mg/1
Chloride (C1) ...	16	25 mg/1
Fluoride (F) ...	0.2	0.8 mg/1

(c) There was no evidence of plumbo solvent action in treated waters.

(d) Before being brought into service all new mains were washed out, sterilized and samples taken to ensure satisfactory bacteriological and physical results.

No action was necessary in respect of any other form of post treatment contamination.

The waters were monitored for radioactive substances.

Monthly reports of current bacteriological and physical results were forwarded to the Medical Officer of Health.

(e) The number of houses is 5,805; population 17,945.

The above figures are taken from 1961 census; a breakdown into properties and population actually supplied from the Board's mains is, as yet, unavailable.

Public Swimming Bath

The Parks and Cemetery Superintendent submits the following report on the public swimming bath.

The open air swimming bath at Ringwood Park is 75 ft. x 30 ft. in dimensions. Enclosed changing accommodation together with showers and footbaths are provided. The bath and surrounds are constructed in reinforced concrete and the surfaces are painted.

The capacity of the bath is 64,000 gallons and is filled from the main town's supply. The water is heated by a coke fired boiler and is filtered and chlorinated. There is a complete change of water every four hours. Bacteriological and chemical examinations of the water are conducted by the Public Analyst at frequent intervals and have been found to be satisfactory.

Sewerage and Sewage Disposal

The Engineer and Surveyor submits the following report on the District's sewerage system and sewage disposal.

The provision of sewers and sewage disposal treatment works are adequate as to the coverage of the District, but many lengths exist which require correction of fall and possibly size of sewer.

Public Sanitary Conveniences

The cleansing and maintaining of the Public Conveniences is vested in the Public Health Department. The following is a list of conveniences provided:—

Situation	*Accommodation for Females*	*Accommodation for Males*
Market Street, Staveley	2 W.Cs	2 W.C's 1 Urinal Stall
Inkersall Road, Staveley	Nil	1 Urinal Stall
Private Drive, Hollingwood	Nil	1 Urinal Stall
Barrow Hill	2 W.C's	1 W.C. 1 Urinal Stall

All accommodation is available free of charge.

Dustbins, Privy Middens & Closet Accommodation

The undermentioned Table gives the estimated number of sanitary conveniences provided at all types of premises in use at the end of 1966:—

Number of water closets	6,675
Number of pail closets	6
Number of privies	21
Number of dustbins	6,550
Number of ashpits	1
Number of cesspools	47

Scrap Metal Dealers

During the year one Registration was made under the Scrap Metal Dealers Act, 1964.

Atmospheric Pollution

Recordings of atmospheric pollution have continued during the year by the use of Standard Deposit Gauges and Lead Peroxide instruments. The recordings are taken in co-operation with the Department of Scientific and Industrial Research. The Analyst's reports of this deposited matter and estimation of sulphur, together with the rainfall, are as indicated in the following Table :—

Month	TONS PER SQUARE MILE		Average Rainfall in inches	Lead Peroxide gauge reading milligrams per 100 sq. cm. per day
	Hartington Colliery, Hartington	Staveley Works Canteen		
JANUARY	–	19.31	1.50	2.15
FEBRUARY	–	25.15	4.97	1.98
MARCH	–	24.15	1.38	2.55
APRIL	20.60	38.45	4.20	1.49
MAY	27.89	19.88	1.50	1.24
JUNE	16.25	17.98	2.38	1.14
JULY	19.47	15.91	1.46	1.18
AUGUST	24.81	17.44	4.18	1.07
SEPTEMBER	16.19	15.81	1.36	1.28
OCTOBER	17.59	21.58	3.64	1.46
NOVEMBER	30.80	25.61	2.66	1.86
DECEMBER	21.39	16.11	1.50	2.12
ANNUAL TOTAL	194.99	257.38	30.73	19.52
MONTHLY AVE.	21.66	21.45	2.56	1.63

It is again encouraging to note the decrease in the amount of solid pollution during the year and a further reduction in the amount of sulphur dioxide. Conditions at Hartington are now substantially better than they have been hitherto, and this is mainly due to an alteration in industrial processes.

A commencement has been made in establishing Smoke Control on domestic premises at Hollingwood. There are over 800 houses in this area and will be adjacent to the Smoke Control Area in Brimington. The benefits of clean air will soon be appreciated by these residents and it is hoped that other areas will follow progressively.

Petroleum Licensing

The number of licences granted to store petroleum spirit was 19 and the quantity to be stored totalled 193,350 gallons. The whole of the licences granted were for storage in bulk in special tanks.

Six underground storage tanks were tested during the year and all satisfied the test.

One licence has been granted to store 35 tons of carbide of calcium.

One licence has been granted to store a total of 200 gallons of Acetone.

FACTORIES ACT, 1961

1.–INSPECTION FOR PURPOSE OF PROVISIONS AS TO HEALTH

Premises 1.	No. on Register 2.	Number of Inspections 3.	 Written Notices 4.	 Occupiers Prosecuted 5.
Factories in which Sections 1, 2, 3, 4, & 6 are to be enforced by Local Authorities	—	—	—	—
Factories not included in above in which Section 7 is enforced by Local Authority	34	13	2	—
Other Premises in which Section 7 is enforced by the Local Authority excluding Outworkers Premises	8	2	—	—
TOTAL	42	15	2	—

2.–CASES IN WHICH DEFECTS WERE FOUND

Particulars 1.	No. of cases in which defects were found Found 2.	 Remedied 3.	 Referred to H.M. Inspector 4.	 Referred by H.M. Inspector 5.	No. of cases in which prosecutions were instituted 6.
Want of cleanliness (S.1)	—	—		—	
Overcrowding (S.2)					
Unreasonable Temp. (S.3)					—
Inadequate Ventilation (S.4)					
Ineffective drainage of floors (S.6)	—		—		—
Sanitary Conveniences (S.7)					
(a) Insufficient	—	—	—	—	—
(b) Unsuitable or defective	2	2	—	—	—
(c) Not separate for Sexes	-		-		
Other offences against the Act (not including offences relating to Outwork).	—	—	—	—	—
TOTAL	2	2	—	—	—

3.–OUTWORK

Nature of Work	No. of Outworkers	No. of cases of default in sending lists to the Council.
Textile fabric weaving	1	—
TOTAL	1	—

SUMMARY OF SANITARY WORK DONE IN THE PUBLIC HEALTH DEPARTMENT DURING 1966

		Inspections and Observations made
GENERAL SANITATION	Drainage	86
	Filthy and Verminous Conditions	9
	Caravan Sites	4
	Places of Entertainment	—
	Petroleum Stores	9
	Shops Act	13
	Atmospheric Pollution	604
	Factories	15
	Rats and Mice	193
	Piggeries	1
	Poultry and other Animals	2
	Water Supply	4
	Watercourses, ditches, etc.	1
	Cesspools	3
	Public Conveniences	29
	Hairdressers	2
	Animal Boarding Establishments	1
	Offices, Shops and Railway Premises	26
	Outworkers	1
	Miscellaneous	17
PUBLIC CLEANSING	Refuse Collection	48
	Refuse Disposal	23
	Salvage	14
	Privies	2
	Scrap Metal Dealers	1
	Abandoned Motor Vehicles	2
HOUSING	Under Public Health Acts	
	No. of Houses inspected	62
	Additional visits to above houses	48
	Under Housing Acts	
	No. of Houses inspected	72
	Additional visits to above houses	11
	Improvement Grants	
	No. of visits made	93
	Rent Act	
	No. of visits made	—
	Houses in Multiple Occupation	1
FOOD INSPECTION	Bakehouses	1
	Provision Merchants	4
	Fried Fish Shops	3
	Ice Cream Premises	5
	Butchers	2
	Licensed Premises	3
	Preserved Food Manufacturers	4
	Unfit Food	4
	Mineral Water Manufacturers	1
	Greengrocers	1
	Canteens	3
	Street Traders	7
	Distribution of Milk	3
INFECTIOUS DISEASE	Enquiries into Cases	27
	Disinfections	7

Salvage of Waste Paper

The quantity and value of waste paper sold during the year was as follows:—

	No. of Bales	*T.*	*C.*	*Q.*	£	s.	d.
January	125	7	4	0	73	16	0
February	150	11	3	2	99	1	11
March	279	18	11	0	174	8	9
April	135	10	11	3	93	18	11
May	254	15	11	0	146	2	3
June	132	11	1	2	98	8	6
July	108	8	14	1	77	9	6
August	142	6	8	3	65	19	8
September	—		—			—	
October	248	18	8	1	166	15	10
November	220	13	14	3	134	12	5
December	276	17	5	2	160	5	0
	2,069	138	14	1	£1,290	18	9

A Karrier Bantam with Derby Type body 10 cu. yds. capacity is used for the special collection of salvage from commercial premises.

Refuse Collection

All household refuse is stored in 3¼ cu. ft. metal dustbins. A back door collection is given and is organised on a three team basis using Dual tip vehicles. The vehicles maintained for the work of the Department are as follows:—

No. 6 Karrier Gamecock Side loader, 10 cu. yds. capacity, Year 1953.

No. 9 Karrier Gamecock Dual tip, 18 cu. yds. capacity, Year 1962.

No. 10 Karrier Gamecock Dual tip, 18 cu. yds. capacity, Year 1964.

No. 11 Karrier Gamecock Dual tip, 18 cu. yds. capacity, Year 1965.

In response to representations made to the Council by the National Union of General and Municipal Workers, a Work Study examination of this service was undertaken by Consultants. Their report was received at the end of the year and negotiations with the Union are continuing.

A rate of 5.1% of days were lost due to sickness and 1.7% of days were lost due to absenteeism.

A total of 312,860 dustbins were emptied during the year and 12,067 miles were travelled by the vehicles.

Refuse Disposal

All refuse is disposed of on land at Cemetery Lane. A Fordson Super Major tractor equipped with Muledozer, blade and bucket is used for tip levelling. Whilst the tipping is not fully controlled, it is carried out sufficiently well to prevent nuisance. Trespassers on tip, however, do create problems and numerous tip fires can be attributed to the activities of these persons.

I am, Mr. Chairman, Ladies and Gentlemen,
Your obedient Servant,
A. MURRAY,
Chief Public Health Inspector

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DIPHTHERIA IN DERBYSHIRE 1966

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INTRODUCTION

SINCE the latter part of the 1940s diphtheria has become a rare disease in the United Kingdom. Few practitioners under 40 years of age have seen cases. However, there have been a few isolated outbreaks in recent years as described by Groarke, Adamson, Elias-Jones and Whittaker (1960), and Semple, Parry and Phillips (1961). The typical pattern is that the first case is not diagnosed until late, frequently at *post mortem.* Epidemiological investigation then reveals carriers or cases amongst the immediate contacts. The source of infection is often difficult to establish, although it is not uncommon to find one of the carriers recently returned from overseas.

Semple and his colleagues found that in their first outbreak a throat swab from a boy was positive for *Corynebacterium diphtheriae*, together with a vague history of a sore throat some two to three weeks before when in Belgium. His sister had an attack of diphtheria three days after arriving in England.

In their second outbreak throat swabs from two girls grew virulent *C. diphtheriae mitis* two weeks after the family returned from a five weeks holiday in Cyprus. One of the girls gave a history of a two day pyrexia during the holiday.

The Annual Report of the Chief Medical Officer of the Ministry of Health for 1963 describes an outbreak in Finchley in which a convalescent carrier was found who had recently returned from a holiday abroad.

Such an outbreak occurred in the Staveley Urban District, Derbyshire, during July, 1966, with three clinical cases (two deaths) and five carriers (three children and two adults). (See Fig. 1; also *The Medical Officer* 22nd July, (1966) **116**, 61.)

THE ONSET OF THE OUTBREAK

This was sudden and unexpected.

Case (1)—A boy (ref. C, Fig. 1), aged six years, became ill with a sore throat eight days before death. When seen by the family doctor for the first time on the fourth day of the illness a diagnosis of tonsillitis was made and sulphonamide treatment commenced. Instructions to call the doctor if he did not improve were not followed and the doctor did not see the boy again until four days later, the day of his death. He was then extremely ill and a provisional diagnosis of peritonsillar abscess with severe laryngeal obstruction was made. Accordingly he was admitted to the ear, nose and throat ward of the Chesterfield Royal Hospital and an emergency tracheostomy was performed and penicillin and streptomycin treatment commenced.

He had recovered from the anaesthetic when he suddenly sat up in bed and fell back dead, presumably from acute cardiac failure.

The post-mortem examination resulted in the pathological diagnosis of diphtheria. This was not confirmed by bacteriology. He was unimmunized.

Case (2)—A boy aged nine years (ref. D, Fig. 1), brother of Case (1), developed a sore throat two days after his brother, with whom he shared a bedroom. He was admitted to the ENT ward of the same hospital shortly after his brother following an initial examination by the family doctor. He too had respiratory obstruction and a tracheostomy was performed to relieve this. He was treated with diphtheria antitoxin, penicillin and streptomycin together with digoxin, intravenous hydrocortisone and aramine to combat a severe circulatory failure. He seemed to be responding to treatment when he suddenly died in a similar way to his brother.

FIG. I

Chronological Progression of Outbreak

May, 1966	
25	Girl—Ref. A—Arrive Staveley
26	
27	
28	
29	
30	
31	
June, 1966	
1	
2	
3	
4	
5	
6	Girl—Ref. A—Enter School
7	
8	
9	
10	
11	
12	
13	
14	Girl—Ref. B—Absent
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	Boy—Ref. C—Absent
30	
July, 1966	
1	Boy—Ref. D—Absent
2	
3	
4	Girl—Ref. B—Return to School
5	
6	Boy—Ref. C—Died. Boy—Ref. E—Absent
7	Investigation Commenced
8	Girl—Ref. B—Carrier Found
9	Boy—Ref. D—Died. Girl—Ref. A—Carrier Found
10	Mother—Ref. F—Carrier Found
11	
12	
13	Policeman—Ref. G—Carrier Found. Also, Boy—Ref. H

He was also unimmunized. A virulent strain of *C. diphtheriae mitis* was isolated from his throat and also at post-mortem from the trachea and bronchus.

Immediately following the post-mortem result in Case (1) the Medical Officer of Health and the family doctor visited the family.

Case (3)—A further brother, aged eleven years (ref. E, Fig. 1), was found to be ill with a sore throat and unilateral swelling of the neck. He was admitted to the isolation unit of Lodge Moor Hospital, Sheffield, where a clinical diagnosis of diphtheria was made and later confirmed bacteriologically by the isolation of *C. diphtheriae mitis* from his nose and throat. He developed extensive neurological complications, but eventually made a good recovery.

The remainder of the family—father, mother and three girls aged 8 years, 2¾ years, and eight months—were examined, but no abnormal symptoms or signs were present. However, as they were all unimmunized they were each given 0·3 c.c. (1,000 units) of diphtheria antitoxin BP to establish a passive immunity. The father and youngest child developed mild serum sickness ten days later, which responded to antihistamines.

Nose and throat swabs were taken from all and the family was isolated. Virulent *C. diphtheriae mitis* was isolated from the throat swab of the girl of eight years (ref. B, Fig. 1), and two days later from a repeat throat swab of the mother (ref. F, Fig. 1). Both were admitted to Lodge Moor Hospital for treatment of their carrier state.

Daily home visits were made for a week, but the remainder of the family remained well and *C. diphtheriae* was not isolated from any of the swabs taken. It is interesting here that the two youngest girls remained clear of infection throughout, although unimmunized, whilst the household was in its most infective state. Hickling (1966) has pointed out that susceptibility to infection with diphtheria does not always seem to be related to titres of circulating antibody.

The family belonged to Social Class V, and were well known to the health visitor. The father was formerly employed as a labourer at a local iron and chemical company but had recently been made redundant. The family occupied a house rented from the company which was provided with modern amenities. The mother did not go out to work.

Epidemiological Measures

All the children so far concerned, save one, attended the local school. This consists of an infant school, 213 enrolled, a junior school, 218 enrolled, and a senior girls' school, 311 enrolled. The brother of 11 years (ref. E, Fig. 1), was the exception, and attended a boys' secondary school in the adjoining Parish of Brimington in the Chesterfield Rural District.

The investigation was started by assuming the girl of eight years (ref. B, Fig. 1), to be the carrier who had introduced the infection into the household. Perusal of the school register revealed that this girl had been absent from 14th June to 4th July. Her mother was vague when asked for the reason, ascribing the absence to a sore throat and cold. It had not been necessary to call a doctor. It may be that she had been a mild clinical case of diphtheria and was really a convalescent carrier. Groarke and his colleagues (1960) describe a somewhat similar mild missed case.

Initially a dozen children who were close classmates were selected for swabbing. The rest of the school was inspected for signs of diphtheria and all absentees were visited. This work, performed by teams of school medical officers and school nurses, was in accordance with the advice given in the Memorandum on Infectious Illness issued jointly by the Ministry of Education and the Ministry of Health (1956).

The first dozen swabs revealed a girl of 7 years who was a nose and throat carrier of virulent *C. diphtheriae mitis* (ref. A, Fig. 1). She was then admitted to Lodge Moor Hospital for treatment. She was perfectly well and gave no history of any illness at all. Likewise her family had remained well. They were all immunized, as their father was an NCO in the Royal Air Force. He had returned to Staveley with his family to spend a period of leave granted to him on conclusion of a tour of duty as a storeman at an RAF hospital in Cyprus. The family had arrived in Staveley on 25th May, 1966, directly from Cyprus, and the girl had started school on 6th June.

Reference to Fig. I shows the time scale involved and illuminates the suspicion that the girl from Cyprus could have introduced the infection into the community. Repeated nose and throat swabs from the rest of this family failed to grow *C. diphtheriae*.

Daily conferences were held between the Medical Officer of Health for Chesterfield Borough, and the Medical Officer of Health for Chesterfield RD and Staveley UD, together with the school medical officers and nurses, and public health inspectors. Close contact was kept with the Director of the Public Health Laboratory, Sheffield, the County Medical Officer of Health and the Ministry of Health. All local practitioners were notified of the presence of the infection in the community.

These meetings served for the exchange of information and for the formulation of policy. The Staveley MOH, assisted by the school medical officers, was concerned mainly with the school and its surrounding environment, whilst the Chesterfield Borough MOH, in co-operation with the hospital bacteriologist and the Public Health Laboratory, dealt with the difficulties caused by the two boys being admitted to the ear, nose, and throat ward of the Chesterfield Royal Hospital. The diagnosis of peritonsillar abscess with which Case (1) was admitted was not seriously queried before his death. Consequently several grades of staff were exposed to infection and were treated as possible carriers until cleared by swabbing. In all, 14 doctors, 12 porters, and numerous nurses were involved. These were confined to service on the ENT ward until nose and throat swabs proved negative. A diphtheria-like organism was isolated from one doctor who was treated as a suspected carrier until the strain was shown to be non-virulent. Doctors who were contacts were forbidden to examine children. Other wards were staffed by non-contacts and only emergencies were admitted. In short, much extra labour is involved when the first case of an outbreak of infectious disease is admitted to a general rather than to an isolation hospital.

It was decided that classes in the schools where there had been cases or carriers should be swabbed, whilst maintaining visiting of family contacts and absentees.

These activities uncovered two more carriers. One, a nasal carrier, was a boy of ten years (ref. H, Fig. I), who was a classmate of the elder of the two deceased brothers. He had been immunized in infancy, and received a booster dose at primary school entry. He too was admitted to the Lodge Moor Hospital for treatment. Two adults, family contacts, were excluded from work being food-handlers, but in the event, all the contacts produced negative swabs. This substantiates the experience of Groarke and his colleagues (1960) that it is rare to find carriers except amongst close associates.

The other was a throat carrier, a police constable (ref. G, Fig. I), aged 21 years, who gave a history of accepting all the routine immunizations in childhood. It is likely, therefore, that he was immunized against diphtheria although it was not possible to corroborate this with documentary evidence. He had been in close contact with the mother of the deceased boys whilst carrying out his duties in connection with their death in hospital. Since then he had been on normal duties and some concern was felt regarding possible spread of the outbreak, until thorough investigation by the Borough MOH failed to reveal any further carriers in this direction.

Further Measures

Considerable unease was felt in case there might be undetected carriers in the school. The summer holidays were on hand, and it was appreciated that once the school broke up, control would become much more difficult. Accordingly, after consultation with the Director of the Public Health Laboratory and local authority colleagues, it was decided to take nose and throat swabs from every child on the roll of the infant and junior schools. All proved negative.

Special schools and training centres present a special problem in matters of this kind as they draw their pupils from a wide area, and are potentially the means of disseminating an infection widely. Further, as Taylor, Tomlinson and Davies (1962) point out, the initial diagnosis presents unusually difficult problems. Accordingly it was decided to swab children attending such establishments who resided in the affected area of Staveley.

Three children in this category grew diphtheria-like organisms which caused them to be treated initially as carriers, but none of them proved to be virulent on further examination. Taylor and his colleagues (1962) state that avirulent non-toxigenic strains of *C. diphtheriae* are not uncommon in the London area where they may cause a mild infective tonsillitis, and that investigations of outbreaks of diphtheria in schoolchildren frequently reveal carriers of these avirulent organisms among the contacts of persons infected with virulent *C. diphtheriae*.

Hence a virulence test is essential before confirming a person as a carrier, although this need not delay isolation and treatment.

The immunization state of all the children in the schools was investigated and the appropriate procedure offered where needed. A demonstration of the need to devise some effective and authoritative method of immunization recording was seen. The statements of relatives are not reliable, particularly under stress. It was perhaps fortunate that the school medical officer had recently completed the routine immunization of the infants' class.

Arrangements were made to meet the increased demand for immunization at the County Council clinics and by the family doctors. Schick testing was not undertaken.

The press naturally showed much interest and a conference was held each evening to give current information and explain matters. One local agency reporter was nominated "Press Officer" and dealt with enquiries from his colleagues. This arrangement worked well and was satisfactory to both sides. Indeed, something of the sort is essential to avoid the frequent interruptions which otherwise occur. This publicity was used to calm public apprehension whenever possible, and so avoid swamping the staff and services with unnecessary enquiries, and demands for swabbing and immunization.

Some welcome light relief was provided when one local evening paper reported that "homes surrounding that of the (dead) boys have had their gardens sprayed." The Public Health Inspector carried out terminal disinfection, but not to that extent!

Discussion

Staveley is an industrial town lying in the north east part of the County of Derbyshire. The population at 18,510 (1965 estimate) is stable, having only increased by 1,000 over the last ten years. There is little inward or outward migration as most males find employment in the local industries of coal mining and iron and chemical manufacturing. Some employment is also available for females in the manufacture of industrial clothing and motor accessories. There are seven County primary schools and three County secondary schools in the district, together with two Church of England schools and a Roman Catholic school.

The school concerned in the outbreak consists of a combined unit with an infant school, 213 enrolled, a junior school, 218 enrolled, and a senior girls school, 311 enrolled. This school also draws pupils from one of the adjoining parishes of the Rural District of Chesterfield—Brimington—which has a population of 8,654 and a density of 6·74 persons per acre.

The state of immunization in the district can be gauged from the data extracted from the annual reports of the Medical Officer of Health for Staveley (1957-1965). In Table I, column A shows the total number of live births, less the infant deaths under one year of age. Column B shows the number of completed primary immunization cards received by the County Medical Officer of Health.

Table I

Year	*A*	*B*	*B as a % of A*
1957	296	68	23·0
1958	305	99	32·5
1959	281	144	51·2
1960	294	162	55·1
1961	310	147	47·4
1962	309	196	63·4
1963	354	211	59·6
1964	340	221	65·0
1965	296	212	71·6

In the Annual Report for 1960, the Medical Officer of Health, the late Dr. J. R. Graham, warned that "all parents should ensure that their children obtain protection against diphtheria at the earliest possible moment". As will be seen from the Table, the numbers of children receiving immunization have gradually improved, although those children nearing the end of their primary school course were poorly immunized as a group.

The last case of diphtheria in the Staveley Urban District was in 1948, and this is in line with the experience of the country as a whole. During the last ten years in England and Wales there have been a few cases each year, only in one year (1959) totalling more than 100 (102), with a similar small number of deaths. This should be taken in conjunction with an annual average, 1933-42, before immunization became general, of 55,125 cases and 2,783 deaths.

An article in Volume 18 of the *Chronicle of the World Health Organization* (1964) shows that the general trend in highly developed countries is for a similar falling incidence, but this is less marked in some countries than in others. In 1962 Italy had 3,619 cases; Poland over 3,000 cases; Spain nearly 2,000 cases; and the German Federal Republic approaching 1,000 cases. The latest figures available from the World Health Organization indicate that the situation shows some improvement but still represents quite a substantial reservoir of infection. In 1965 Italy had 2,384 notified cases; Poland 419 cases; Spain 839 cases; and the German Federal Republic 324 cases. Portugal had 1,410 cases. These are popular holiday areas and it seems that there is a possibility of the infection being brought home from abroad by a carrier. Further, entry into the Common Market might result in greater opportunities for infection.

As no cases occurred in Staveley during the preceding 18 years it seems reasonable to assume that the virulent bacilli were absent from the community. Hence the outbreak must be due either to a change in the non-toxigenic avirulent diphtheria bacilli which were shown to be present, or to importation. Taylor and his colleagues (1962) record that such a change has been accomplished in the laboratory by the action of a temperate bacteriophage derived from virulent diphtheria bacilli. This has, however, not been shown to occur naturally, and would in any case require the presence of the temperate bacteriophage.

One therefore falls back on importation as the most likely source of the outbreak. It seems probable that the girl (ref. A, Fig. I) was a carrier, and the girl (ref. B, Fig. I) a mild missed case. The fact that the actual number of infected persons was relatively small is probably due to the first recognized clinical case being the third person to be infected. Hence the outbreak was discovered and terminated before extensive spread occurred.

Importation is not included as a hazard in the BMA Report of 1965 on the Medical Examination of Immigrants. However, in view of the recent history of outbreaks, one wonders if nose and throat swabs should be taken at the point of entry. Certainly medical officers of health should search for recently returned travellers when investigating an outbreak, and doctors should always be aware that a mild throat infection could be diphtheria. Nose and throat swabs should invariably be taken before commencing treatment.

The strain of *C. diphtheriae* isolated in the outbreak is morphologically and culturally type *mitis*. This has been confirmed by the Diphtheria Reference Laboratory in Oxford. Two cultures, one from the fatal case (ref. D, Fig. I) and the other from the girl recently returned from Cyprus (ref. A, Fig. I), were sent on request to Saragea and Maximescu in Rumania who reported (1967) that both strains were of the *intermedius* type, phage type 951/523. Their method of classification is not that used in this country. These findings are in keeping with our suspicion that the girl could have introduced the strain but, alternatively, she may have acquired it from a carrier in Staveley or elsewhere.

Summary

The epidemiological control of an outbreak of diphtheria is described. There were three clinical cases, with two deaths and five carriers—three children and two adults. The district had been free of the infection for 18 years. One of the carriers had recently returned from Cyprus.

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References

British Medical Association (1965): Medical Examination of Immigrants, p. 29. BMA, London.
Chronicle of the World Health Organization (1964) **18,** 61.
Epidem. and Vital Statists. Rep., WHO (1966). **19,** 347.
Groarke, F. L., Adamson, M. I., Elias-Jones, T. F., and Whittaker, L. (1960). *Brit. Med. J.*, **i,** 1607.
Hickling, S. (1966). *New Zealand J.*, **65,** 357.
Ministry of Education and Ministry of Health (1956): Memorandum on the Closure of Schools and Exclusion from School on Account of Infectious Illness, p. 12. HMSO, London.
Ministry of Health (1963): On the State of the Public Health, 37. HMSO, London.
Medical Officer of Health, Staveley UDC (1957-65): Annual Reports.
Saragea, A. and Maximescu, P. (1967). *Lancet*, **i,** 221.
Semple, A. B., Parry, W. H. and Phillips, D. E. (1961). *Lancet*, **i,** 937.
Taylor, I., Tomlinson, A. J. H. and Davies, J. R. (1962). *Roy. Soc. Hlth. J.*, **82/3,** 158.

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